

Coordinated Nuclear Reactor Physics and Nuclear Reactor Laboratory Courses for CSM's New Nuclear Engineering Program

Executive Summary

In 2007, the Colorado School of Mines (CSM), with the approval of the State of Colorado's Colorado Commission of Higher Education, created new masters and doctoral graduate degree programs in Nuclear Engineering (NE). The proposed project seeks to develop, in a coordinated fashion, two of the key core curriculum courses in the new NE program, namely the *Introduction to Nuclear Reactor Physics* and *Nuclear Reactor Laboratory*. The goal is to integrate the three components of conceptual nuclear science and engineering, reactor laboratory experiences, and reactor core modeling to develop a high level of student learning. The ultimate learning outcome is to produce students who have the knowledge and skills necessary to understand nuclear power plants and their safety features through high-fidelity computational analyses. The benefits include: improved nuclear engineering faculty expertise in a new nuclear engineering program; the creation of an innovative integrated course sequence with an assessment, evaluation, and feedback program; and support of a new program that will provide a continuous source of scientifically and numerically literate graduates for the nuclear workforce.